

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application and for the courtesies extended during the May 20, 2004 interview.. The Office Action of March 19, 2004 has been received and its contents carefully reviewed.

Claims 1-15 are presently pending in the application.

In the Office Action, the Examiner rejected claims 1, 2, 5-9, and 12-14 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (U.S. Patent No. 6,2845,558) in view of the Applicants Related Art (ARA) and further in view of Brandli (U.S. Patent No. 5,227,012).

Claims 1-15 are allowable over the cited references in that each of these claims recites a combination of elements including, for example, “simultaneously dry etching the organic insulating film and the inorganic insulating film using a mixed ratio gas that etches the organic insulating film faster than the inorganic insulating film.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention.

Sakamoto is directed to using the step of wet etching to accomplish other steps in the process of making an active matrix LCD device. In a first embodiment, the wet etching leaves a mask behind that can be used to dry etch a SiNx layer, thus saving the step of setting up a separate mask for the SiNx layer. (See Sakamoto, col. 3, ll. 53-61.) Further, in another embodiment, the wet etching of the organic film simultaneously develops a resist layer. (See Sakamoto, col. 4, ll. 53-57.) Sakamoto teaches that the use of a wet etching step can be used to accomplish other steps in the manufacturing process, therefore the use of wet etching is essential to the teaching of Sakamoto. There is no teaching of replacing the wet etching step with a dry etching step because this would run counter to accomplishing additional process steps with the wet etching. Further Sakamoto teaches that dry etching the organic layer will not work in Sakamoto. (See Col 4, ll. 36-39.)

Brandli teaches dry etching organic materials but does not teach using a mixed gas ratio or simultaneously etching an organic and inorganic layer. The Examiner attempts to replace the wet etching step of Sakamoto and replace it with a dry etching step of Brandli. There are a number of problems with this. First there is no teaching in either Brandli, Sakamoto, or the

ARA to make this combination. Second, Sakamoto teaches away from replacing the wet etching step with a dry etching step as discussed above. Third, there is no teaching anywhere to simultaneously etch both an organic and inorganic layer using a mixed ratio gas. The two etching steps in Sakamoto are two separate and distinct steps. Further, different etchants are used. Further, the mixed ratio gas allows both layers to be etched without an undercut occurring due to different etching rates of the layers. Therefore, the combination proposed by the Examiner lacks certain claimed elements, and also there is no teaching or motivation to combine the reference cited by the examiner.

Further the Examiner states that it is well known that organic films have higher etch rates than inorganic films. The examiner provides no support for this statement. Applicant respectfully requests that the Examiner provide a reference to support this statement.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: August 10, 2004

Respectfully submitted,

By 

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